## WHAT IS CLAIMED IS:

- 1. A polymeric sponge including cellulose fibers imbedded therein.
- 2. A sponge according to claim 1 wherein said cellulose fibers are chemically bonded therein.
- 3. A sponge according to claim 2 comprising a water-catalyzed prepolymer.
- 4. A sponge according to claim 3 wherein said polymer comprises polyurethane.
- 5. A sponge according to claim 3 wherein said polymer comprises polyether toluene disocyanate polyurethane.
- 6. A sponge according to claim 3 comprising primarily only closed cells therein.
- A sponge according to claim 3 excluding surfactant therein.
- 8. A sponge according to claim 3 further comprising abrasive particles imbedded therein.
- 9. A sponge according to claim 8 excluding bonding agent on said abrasive particles.
- 10. A sponge according to claim 8 wherein said abrasive particles are bonded in said polymer.
- 11. A sponge according to claim 10 wherein said cellulose fibers are dispersed in said polymer between adjacent ones of said abrasive particles.

- 12. A sponge according to claim 10 comprising a composition by weight of about 79% abrasive particles, about 18% prepolymer, about 2% catalyzingwater, and about 1% cellulose fiber.
- 13. A sponge according to claim 10 comprising catalyzing-water and cellulose fiber in a weight ratio of about 2:1.
- 14. A sponge according to claim 10 comprising catalyzing-water less than about 2% by weight.
- 15. A sponge according to claim 3 wherein said polymer comprises polyether toluene disocyanate polyurethane in a matrix comprising primarily only closed cells.
- 16. A sponge according to claim 15 further comprising abrasive particles bonded in said polymer, and said cellulose fibers are dispersed in said polymer between adjacent ones of said abrasive particles.
- 17. A sponge according to claim 16 comprising a composition by weight of about 79% abrasive particles, about 18% prepolymer, about 2% catalyzingwater, and about 1% cellulose fiber.
- 18. A sponge according to claim 17 excluding surfactant therein, and excluding bonding agent on said abrasive particles.
- 19. A polymeric sponge comprising water-catalyzed polyether toluene disocyanate polyurethane having primarily only closed cells therein, and cellulose fibers chemically bonded in said polymer.
- 20. A sponge according to claim 19 excluding abrasive particles therein.

- 21. A sponge according to claim 19 further comprising abrasive particles bonded in said polymer.
- 22. A sponge according to claim 21 comprising a composition by weight of about 79% abrasive particles, about 18% prepolymer, about 2% catalyzingwater, and about 1% cellulose fiber.
- 23. A method of making a polymeric sponge including integral cellulose fibers comprising:

mixing water and cellulose fibers:

mixing a water-catalyzing prepolymer with said water and cellulose mixture for chemical reaction thereof;

curing said reacting mixture to form said polymeric sponge including said integral cellulose fibers therein; and

granulating said sponge.

- 24. A method according to claim 23 further comprising premixing said water and cellulose fibers prior to mixing with said prepolymer to suspend said fibers substantially uniformly in said water.
- 25. A method according to claim 24 wherein said cellulose fibers are hydrophilic and absorb more than their weight in water during said premixing thereof with said water.
- 26. A method according to claim 25 further comprising releasing said absorbed water from said cellulose fibers in said chemical reaction with said prepolymer.
- 27. A method according to claim 26 wherein said water, fibers, and prepolymer are mixed without abrasive particles, and without the use of

auxiliary heating or cooling thereof during said chemical reaction.

- 28. A method according to claim 26 further comprising mixing abrasive particles with said prepolymer, water, and fibers for said chemical reaction thereof.
- A method according to claim 28 wherein said particles are premixed with said prepolymer prior to mixing with said premixed water and fibers.
- 30. A method according to claim 29 further comprising heating said prepolymer and particles prior to mixing with said water and fibers.
- 31. A method according to claim 30 further comprising cooling said water and fibers prior to mixing with said prepolymer and particles.
- A method according to claim 31 wherein said prepolymer and particles are separately heated prior to mixing thereof.
- 33. A method according to claim 32 wherein said prepolymer and particles are heated to about the same temperature.
- 34. A method according to claim 33 wherein said prepolymer and particles are heated to about 100 degrees (F).
- 35. A method according to claim 34 wherein said water and fibers are premixed in a weight ratio of about 2:1.
- 36. A method according to claim 35 wherein said water and fibers are cooled to about 55 degrees (F) prior to mixing with said heated prepolymer and particles.

- 37. A method according to claim 36 wherein said abrasive particles, prepolymer, water, and cellulose fibers are mixed by weight of about 79%, 18%, 2%, and 1%, respectively.
- 38. A method according to claim 37 wherein said prepolymer comprises polyether toluene discovanate polyurethane.
- 39. A method according to claim 31 wherein said particles are mixed with said prepolymer without a bonding agent.
- 40. A method according to claim 31 further comprising extruding said mixed prepolymer, particles, water, and cellulose fibers in an elongate bun atop a moving conveyer belt as said chemical reaction progresses.
- 41. A method according to claim 40 further comprising dispensing a plastic sheet between said bun and belt to prevent sticking of said bun to said belt.
- 42. A method according to claim 40 further comprising: cutting said bun into shorter slabs at the end of said belt; and storing said slabs for a plurality of days for final curing thereof.
- 43. A method according to claim 42 further comprising in turn shredding said slabs into smaller pieces, granulating said pieces into smaller granules, and classifying said granules into substantially uniform size.